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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,292	12/08/2003	Zia Hossain	ONS00478	2181

7590 02/11/2005

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EXAMINER

NGUYEN, JOSEPH H

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 02/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/729,292	Applicant(s) HOSSAIN ET AL.	
	Examiner Joseph Nguyen	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.  
2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11, 17, 18 and 20-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-8, 10, 11, 17, 18 and 20 is/are allowed.  
6) ☒ Claim(s) 21-26 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 07 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al.

Regarding claim 21, Watanabe et al. discloses on figure 8 a lateral FET device comprising a semiconductor substrate 11 having a first conductivity type; a plurality of drain regions 23, 24 of a second conductivity type formed in the body of semiconductor material, wherein each drain region comprises a well region 23 and a drain contact region 24; a plurality of source regions 16 of the second conductivity type formed in the body of semiconductor material; a first conductive layer 30 formed over the body of semiconductor material, wherein the first conductive layer couples at least two source regions together; a second conductive layer 29 formed over the body of semiconductor material, wherein the second conductive layer couples at least two drain contact regions 24 together; and a dielectric layer 25 formed over the body of semiconductor material, wherein the dielectric layer vertically separates the first and second conductive layers.

Regarding claim 22, Watanabe et al. discloses on figure 8 a plurality of doped regions 14 of the first conductivity type, wherein one of the plurality of source regions 16

is within one of the plurality of doped regions, and wherein one of the plurality of doped regions surrounds one well region 22.

Regarding claim 23, Watanabe et al. discloses on figure 8 one well region 23 includes a pair of opposing rounded tips.

Regarding claim 24, Watanabe et al. discloses on figure 8 a doped region 14 of the first conductivity type surrounding at least one well region 22, wherein the doped region is absent a fingertip region.

Regarding claim 26, Watanabe et al. discloses on figure 8 a portion of the second conductive layer 29 is over a portion of one well region 23 and separated from the one well region by a dielectric layer 25.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al as applied to claim 21 above, and further in view of Ludikhuizen.

Regarding claim 5, Watanabe et al discloses on figure 8 substantially all the structure set forth in the claimed invention except at least one drain contact region comprising an elongated stripe shape. However, Ludikhuizen discloses on figure 1 at least one drain contact region 7 comprising an elongated stripe shape. In view of such

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teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Watanabe et al by having at least one drain contact region comprising an elongated stripe shape for the purpose of increasing the breakdown voltage at high currents, and thus an expansion of the safe operating area as taught by Ludikhuize (col. 2, lines 2-4).

***Allowable Subject Matter***

Claims 1-8, 10-11, 17-18 and 20 are allowed.

***Response to Arguments***

Applicant's arguments with respect to claims 21-26 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN  
February 4, 2005

  
ALLAN R. WILSON  
PRIMARY EXAMINER